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REMARKS

Applicant wishes to thank the Examiner for the detailed remarks. Claim 1 has been amended only to correct an inconsistency noted by the Examiner. Accordingly, claims 1-14 and 22-31 are pending.

Claims 1-14 and 22-31 were rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. The Examiner argues that at claim 1, line 4 and claim 9, lines 3-4, the original specification does not provide support for the negative limitation of the braided sleeve forming a non-circular cross-section profile. Applicant respectfully traverses this rejection. The Examiner argues that Figure 2 shows that the braided spar 32 is of a generally circular shape. This cannot be sustained. The braided spar 32 illustrated in Figure 2, under no just interpretation, can be considered circular. The braided spar 32 is illustrated as a race track, elliptical or airfoil-type shape which is certainly not circular. That is, geometrically a circle is an ellipse, but an ellipse need not be a circle. Moreover, Figures 3, 4, 5, and 6 also illustrate the braided spar 32 as having a non-circular cross-sectional profile. Applicant respectfully requests reconsideration of this new matter rejection.

The Examiner also rejects claim 8 because "there is no antecedent basis in the specification that the composite sheet is located adjacent at least one of the upper and lower aerodynamic surfaces, because in Figure 6, it is unclear whether or not composite layers 35 are located adjacent the upper or the lower aerodynamic surfaces." Applicant is unsure if the Examiner is arguing antecedent basis or new matter with regard to claim 8. The clause in claim 8 to which the Examiner refers is not new matter (see Figure 6). Furthermore, since dependent claim 8 is the first introduction of a separate composite sheet, no antecedent basis problem can even arise. The Examiner's statement itself supports Applicant's claim 8 as the composite layer 35 may be located adjacent at least one of said upper and lower aerodynamic surfaces, i.e., adjacent the upper and/or lower aerodynamic surface. Applicant respectfully requests reconsideration. Claims 25 and 26 are similarly proper for at least the reasons described above.

Claims 1-14, 22-24, and 30-31 were rejected under 35 U.S.C. §112, second paragraph. Applicant respectfully traverses this rejection. As discussed above, Figures 2, 3, 4, 5, and 6

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illustrate that the braided sleeve 32 may be of a non-circular cross-sectional profile, under any just interpretation. The race track, elliptical or airfoil shape of the braided spar 32 simply cannot be properly interpreted as only circular as argued by the Examiner. The claims are proper.

With regard to the inconsistency in the last two lines of claim 1, Applicant has corrected this inconsistency as properly noted and understood by the Examiner.

Claims 1, 3-7, 9-11, 13, 22-24, 25, 28-29, and 30-31 were rejected under 35 U.S.C. §102(b) as being anticipated by *Graff* (5222297). Applicant respectfully traverses this rejection. *Graff* simply fails to disclose or suggest a multiple of zero degree fibers interwoven with said multiple of braided bias angle fibers which form a braided sleeve with a non-circular cross-sectional profile which surrounds a longitudinal axis.

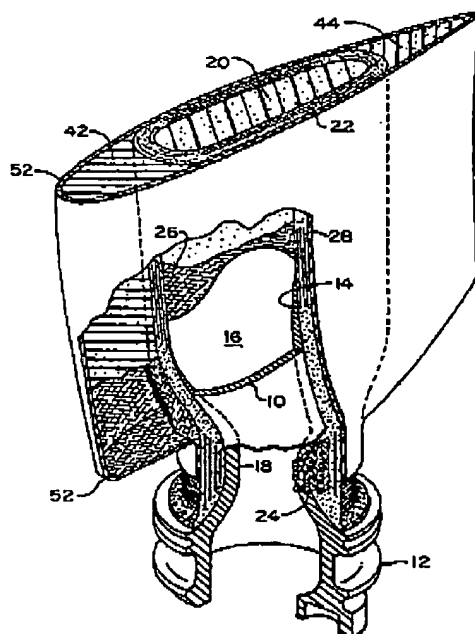


FIG. 2

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Irrespective of how the dry, multi-layer woven fiber wrap 22 of *Graff* is manufactured and the fiber orientation therein, the dry fiber wrap 22 still comprises a wrap of a *plurality of layers 26*. That is, *Graff* discloses a relatively conventional ply structure formed from a multiple of layers *wrapped* about a mandrel. *Graff* fails to disclose or suggest a braided *sleeve* of any type. In fact, the term "sleeve" is not even mentioned in *Graff*. The claims are therefore properly allowable.

Claims 1-3, 5-10, 12-14, 22-26 and 30-31 were rejected under 35 U.S.C. §102(b) as being anticipated by *Violette* (2002/0008177; Figures 1-4). Applicant respectfully traverses this rejection.

Violette, as with *Graff*, utilizes *layers* of braided glass fiber material which neither disclose nor suggest the braided *sleeve* as recited in Applicant's claims. Applicant's claims are therefore properly allowable for at least the reasons discussed above. Furthermore, as specifically illustrated in *Violette* Figure 4 (reproduced below), *Violette* folds over the layers adjacent to a root portion of the propeller blade. This folded-over arrangement simply cannot be achieved were *Violette* utilizing a braided *sleeve* as claimed by Applicant. The claims are properly allowable.

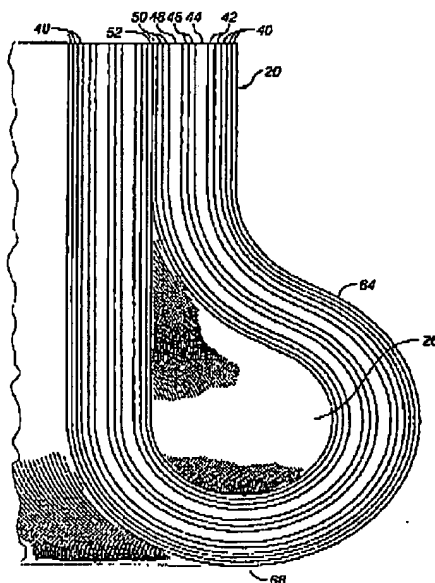


FIG. 4

Claims 22 and 23 each recite that said braided sleeve is formed to generally constrict toward said longitudinal axis. Under no just interpretation does either *Graff* or *Violette* disclose or suggest the claimed constriction since neither *Graff* nor *Violette* even disclose a braided *sleeve*. The layers utilized by *Graff* and *Violette* simply cannot constrict as recited in Applicant's claims 22 and 23.

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Claims 22 and 23 are properly allowable.

Claims 1, 3-7, 9-11, and 22-24 were rejected under 35 U.S.C. §102(b) as being anticipated by *Plummer, Jr.* (4741087). Applicant respectfully traverses this rejection. The Examiner argues that Col. 4, lines 27-29 of *Plummer* states that "application of tension in either manner serves to stretch or rupture the weak warp filaments 14 and that since the filaments are stretched, they are obviously not ruptured as argued by Applicant."

While it is true that the claims in a patent application are to be given their broadest reasonable interpretation consistent with the specification during prosecution of a patent application (see, for example, *In re Zietz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)), it is also well settled that terms in a claim should be construed as those skilled in the art would construe them (see *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 986, 6 USPQ2d 1601, 1604 (Fed. Cir. 1988) and *In re Johnson*, 558 F.2d 1008, 1016, 194 USPQ 187, 194 (CCPA 1977)). Further, as pointed out by our reviewing court in *Phillips v. AWH Corp.*, 415 F.2d 1303, 1315, 75 USPQ2d 1321, 1327 (Fed. Cir. 2005), the claims, of course, do not stand alone but rather are part of a fully integrated written instrument consisting principally of a specification that concludes with the claims.

The Examiner is essentially arguing against the teachings of the *Plummer* reference and is not construing them as one skilled in the art would construe them. The full paragraph from which the Examiner extracts a single sentence is reproduced below:

end of the sleeving as shrinkage occurs.
The resulting finished product is a highly resilient
15 tube readily, partially, or fully collapsible for packaging
as by the application of light pressure transversely
thereof. Immediately upon release of the pressure the
sleeving resumes its former cylindrical configuration.
20 The very substantially expanded and enlarged sleeving
is readily telescoped over cabling, cordage or any elong-
ated object of smaller cross sectional area than the
pre-expanded sleeving. Once the sleeving has been tele-
scoped over the object it can be readily and completely
25 collapsed into a snug fit by applying tension to its oppo-
site ends, or by first anchoring one end and applying
tension to the the other end. Application of tension in
either manner serves to stretch or rupture the weak
warp filaments 14. This permits the helical strands to
30 contract both axially and circumferentially against the
object. The ends of the sleeving are then secured and
anchored against movement in any of various known
manners.

[Col. 4, lines 14-33].

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As explained in this paragraph and even the sentence to which the Examiner refers, the entire structure of *Plummer* requires that the warp filaments 14 be weak such that they stretch or rupture under the application of tension.

As further recited in claim 1 of *Plummer*, the filaments to which the Examiner refers are of "heat reactive material. . ." to contract said sleeving axially thereof and to expand said sleeving girthwise and to retain said sleeving until said sleeving is placed in tension."

1. An improved method of processing expandable-
contractable braided sleeving which comprises:

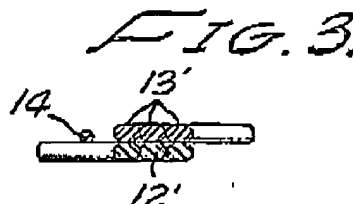
spirally interweaving multiple strands of flexible fila-
ments into a tubular sleeve with at least one fila-
ment of resilient heat reactive material extending
lengthwise of said sleeving and entrapped between
at least some of said spirally interwoven strands;
and
heating said sleeving containing said filament of heat
reactive material to a sufficient temperature to
contract said sleeving axially thereof and to expand
said sleeving girthwise and to retain said sleeving
axially contracted and girthwise expanded, until
said sleeving is placed in tension.

As such, irrespective of whether the weak warp filaments 14 stretch or rupture, they simply cannot meet the limitations of providing one axis of said tri-axial braid as recited in Applicant's claim 1. For further support of this interpretation, Applicant directs the Examiner to Col. 3, lines 30-36 reproduced below.

of heat reactive filaments is desirable. The warp fila- 30
ments 14 have a cross section and tensile strength suffi-
cient to expand the sleeving when heated to shrink the
warp strands, but which warp filaments are readily
rupturable or stretched when placed under tension to
contract the sleeving into a snug fit with the object 35
encased thereby. For example, warp strands 9 mils in

Again, *Plummer* simply fails to disclose a tri-axial braid since the warp filaments 14 are only "trapped" between the criss-crossing strands 12 and 13." [Col. 3, line 15.] Note especially how warp filament 14 is illustrated in Figure 3 of *Plummer*.

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Also note that strands 12, 13 are referred to as "pairs of criss-crossing strands."

a member of this family and in widespread commercial use for its heat reactive characteristics. Filaments 14 are shown in FIG. 2 as trapped between all pairs of criss crossing strands 12 and 13. It will be understood that a substantially fewer number of warp filaments may be employed, the controlling factor being the number required to expand the braided sleeving by a substantial or desired amount girthwise. For example, if strands 12

[Col. 3, lines 21-27.]

Plummer simply fails to disclose or suggest a *tri-axial* braid. In short, the Examiner is suggesting an interpretation that specifically contradicts and is not consistent with the specification of *Plummer* in an attempt to construe pairs of criss-crossing strands with a separate, weak heat reactive, warp filament as a tri-axial braid as claimed by Applicant. The claims are properly allowable.

Claim 27 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Graff* in view of *Holowczak* (6447254). Applicant respectfully traverses this rejection as there is absolutely no teaching, suggestion, or motivation to modify *Graff* in view of *Holowczak* as proposed. The Examiner argues that *Graff* discloses a rotor blade assembly substantially as claimed including an upper and a lower skin, but does not disclose that the upper skin and lower skin are formed from a multitude of pre-preg composite material plys." It is axiomatic that an obviousness rejection must come from the suggestions or teachings of the references themselves. A proper suggestion or motivation to make a combination requires some benefit to result from the combination. Contrary to the Examiner's contention, *Graff* does disclose a plurality of layers 26. [Col. 5, line 20.] As there is no benefit to the combination proposed by the Examiner, the combination is improper.

What *Graff* does fail to disclose is a braided sleeve as discussed above. *Holowczak* does not correct this deficiency. Thus, even if the combination is proper - which it is not - the

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proposed combination fails to suggest a braided sleeve at least partially surrounded by an upper skin and a lower skin in which the upper skin and lower skin are formed from a multitude of pre-preg composite material plys. Claim 27 is properly allowable.

Applicant respectfully submits that this case is in condition for allowance. If the Examiner believes that a teleconference will facilitate moving this case forward to being issued, Applicant's representative can be contacted at the number indicated below.

Respectfully Submitted,
CARLSON, GASKEY & OLDS, P.C.



DAVID L. WISZ
Registration No. 46,350
Attorneys for Applicant
400 West Maple, Suite 350
Birmingham, Michigan 48009
(248) 988-8360

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